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PITTSBURG MINERAL SPRING.

A Chemical Analysis of the Pittsburgh Mineral Spring.

By William Meade, M. D.

From Professor Silliman's Journal, April 1828.

Sir—A mineral spring having been lately discovered on the estate of J. S. Scully, Esq. near Pittsburg, in the state of Pennsylvania, which had attracted considerable attention, I was favoured by the proprietor with a few bottles of the water carefully put up, with a request that I would make a chemical analysis of it, with some observations on its medical qualities. The result of this analysis I now take the liberty of sending to you, together with some extracts from the remarks which I have made on the general properties of a class of mineral waters, which are ranked as chalybeates, and which are not uncommon in this country, though not generally known, or their valuable properties fully appreciated. If you think the subject of any interest to the public, or that such an inquiry is within the limits of those branches of science, to which your useful Journal is appropriated, this communication is perfectly at your service.

I am, sir, very respectfully, yours,

W. MEADE.

The Pittsburg Mineral Spring, is pleasantly situated on the farm of John S. Scully. Esq. in St. Clair township, Allegheny county, four miles south-west of the city of Pittsburg, and two miles south of the Ohio river. It issues from the fissures of a rock, on the side of a small hill, and discharges about a gallon of water per minute, which is conveyed through a tunnel into a reservoir, from which it is pumped to supply the bath house. The water in the spring, when undisturbed for a few hours, is covered with a thin white pellicle, which after some time assumes an iridescent appearance. It then falls to the bottom, and is renewed, if the water be not disturbed, as may be more particularly observed every morning.

When the water is first taken from the spring, its appearance in a glass is perfectly clear; its taste is lively and rather pungent, with a peculiar ferruginous flavour, and an odour which has some resemblance to the scouring of a gun barrel, and which is easily recognised as arising from an impregnation of sulphuretted hydrogen gas.

If the water is allowed to remain for some hours in a glass, it loses, in some degree, its transparency, as well as its lively and pungent taste; numerous air bubbles are extracted from it, and a light deposit takes place on the inside of the glass, which renders it pellucid. Vessels which are constantly used become lined with an ochry incrustation, which is with difficulty removed, and the bottom and sides of the well, as well as those substances over which the water flows, contain a sediment of the same nature.

The temperature of the spring is nearly the same at all seasons of the year. In the month of August, when the atmosphere was as high as 85 of Fahrenheit, the temperature of the water was only 54.

The specific gravity of the water differs little from the purest water. When compared with distilled water it is as 1002 to 1000.

Having made these preliminary remarks on the external qualities of the spring, I proceed to an experimental inquiry into its chemical properties.

I. *Examination of the contents of the water by tests and reagents.*

Exper. 1. *Litmus paper* when dipped into the water fresh from the spring has its colour immediately changed from blue to red, but the colour is fugacious; nor will the water when boiled produce any such effect, a decisive proof that this change was produced by the presence of uncombined carbonic acid gas, and not by a fixed acid.

2. *Paper stained with tumeric* is not changed in colour by this water, nor could it well be expected as the carbonic acid gas would repress the effect of this test.

3. *Lime water* produces an immediate turbidness and precipitation when added to this water, yet a variety of circumstances are to be attended to in the application of this test. The usual directions which are given are, that the lime water shall be added to it in equal quantity. This, however, if the mineral water is saturated with carbonic acid, as in the case of the Ballston water, is too much, and if the water contains but little carbonic acid, it is not sufficient to decompose the same water; in order therefore to ensure a complete and permanent precipitation of the lime, it requires four cubic inches of the water of this spring to decompose three cubic inches of lime. It is evident, therefore, that the greater quantity of carbonic acid gas, which is contained in a mineral water, the less of that water is required to produce the requisite change, so that by observing this rule, an experienced chemist can form a tolerable accurate judgment of the quantity of carbonic acid contained in any mineral water.

4. *Tincture of galls,* when poured into a glass of this water strikes an immediate purple colour, which after standing for some time, increases in intensity, but no such change takes place if the water has been previously boiled.

5. *Prussiat of potash.*—This test produces an immediate change in the colour of the water; it first becomes green, and after standing some hours assumes a blue colour.

6. *Nitrat of silver.*—When a few drops of this test are added to a glass of this water, a dense white flocculent precipitate is thrown down, which after some time changes to a light purple colour.

7. *Acetate of lead,* throws down an immediate dense white precipitate, the colour of which is rendered a shade darker when allowed to stand in the glass for a few hours. This precipitate is partly dissolved when a few drops of nitric acid are poured on it, which shows that a small quantity of sulphuric, as well as muriatic acid, is present; muriat of lead being soluble, while the sulphate is perfectly insoluble in any acid.

8. *Muriat of Barytes,* produces a white cloud when permitted to stand for some time, a precipitate falls which is not soluble in nitric acid.

9. *Oxalat of Ammonia,* produces a slight turbidness but scarcely any precipitate.

10. *Liquid or pure ammonia,* has no effect on the water either when fresh from the spring or when concentrated by boiling.

11. *Carbonat of potash,* does not disturb the transparency of the water.

12. *Sulphuric acid.*—This acid produces no change.

II. *Inferences to be drawn from the above experiments.*

If it was only required to determine the quality of this water, and the nature of the ingredients, these experiments would be nearly sufficient; but no chemical investigation will be deemed satisfactory at present which does not exhibit the exact proportions of the different ingredients. Before however we proceed further in the investigation, the use of tests and reagents become an important guide; by their means future experiments may be conducted with more precision, and when we proceed to evaporation, much time and labour are spared in looking for those substances which we had previously ascertained by reagents not to be present. Thus having discovered iron by experiments 4 and 5, and that it was held in solution by carbonic acid, it was in vain to look for any metallic salt, and we have only to determine the quantity of iron which is thus suspended.

Experiments 1 and 3 have shown the presence of a considerable quantity of carbonic acid gas.

Experiments 1 and 4 show that the iron is held in solution by this gas.

Experiments 6 and 7 demonstrate the presence of muriatic acid combined with a base.

Experiments 8 and 9 show the presence of a small quantity of sulphuric acid and of lime.

It now remains to confirm these, by evaporation and more direct experiments, as well as to determine the quantity of each substance in a given quantity of water.

III. *Examination of the gaseous contents.*

As many of the most important qualities of mineral waters arise from the gas with which they are impregnated, there is no part of their analysis which requires more attention. In order to determine the quantity of this gas I proceeded in the manner which I have pointed out in my essay on the mineral waters of Ballston and Saratoga, and which I have uniformly found successful. A plate of the instrument which I used on those occasions, will be found in the publication alluded to. It consists of a tin vessel calculated to hold one quart of water. A covering was soldered on it, and no opening left except one at the top, to which was adapted a small tube about half an inch long, and one third of an inch in diameter. A graduated decanter was connected with this, which was filled with hot water. Heat was then applied to the tin vessel, when the gas which was extricated from one quart of water was collected in the glass vessel graduated into cubic inches. I found that the whole of the gas which was extricated from one quart of the water amounted to eighteen cubic inches, which, when passed through lime water, was entirely taken up by it, so that it consisted entirely of carbonic acid gas. Some surprise may be excited at finding so small a quantity of carbonic acid in this water, when we compare it with the waters of Saratoga and Ballston, but let it be recollected that they have no resemblance; and if we refer to the analysis of the most celebrated chalybeates in Europe, and even in this country, none of them are stated to contain more, and few of them so much. It is even probable that if this water were examined when immediately taken from the spring, it would be found to contain more of this gas.

IV. *Examination of the contents of the Pittsburg Mineral Spring by evaporation.*

The experiments which have already been detailed throw great light on the qualities of this water, and enable the experienced chemist to decide upon the nature, but not on the quantity of the different substances with which it is impregnated. To make an accurate estimate of these I proceeded to evaporate one quart of water in a glazed China vessel, placed in a sand bath over a furnace. Heat was gradually applied, but never allowed to exceed 180 or 200 of Fahrenheit, when the gas began to arise, the water became slightly turbid, and a light pellicle appeared on its surface, which gradually subsided to the bottom of the vessel; and when the water was evaporated to dryness, the whole of the residuum or solid contents which was collected, amounted to 4 grains. This powder when exposed to the atmosphere for several days, showed no signs of deliquescence, nor was it sensibly increased in weight. In order to determine the component parts of these four grains, I proceeded in the following manner. I poured over it, in a small phial bottle, about half an ounce of alcohol of the specific gravity .827, and shook it repeatedly for twenty-four hours, then filtered it carefully, when I found it had lost in weight only half a grain, which was the whole that the alcohol had taken up. The residue, now reduced to three and a half grains, was treated with an ounce of pure distilled water, and having left it sufficiently long to complete the solution of whatever was soluble in pure water, I again filtered it carefully, and dried the residuum, which was now reduced to one and a half grains.

Only this residuum, which resisted the action of alcohol and of distilled water remained to be examined, and, as from former experiments I had satisfied myself that it must consist principally of the iron and earths contained in the water, I re-dissolved it in dilute marine acid, which took up the whole of it, except half a grain of white powder, which remained on the filter, and which not being soluble in dilute marine acid, was found to be gypsum, or sulphate of lime.

We have now three solutions, which we shall examine in the following order:—

First—That which was taken up by the alcohol, and consisted of only half a grain. This could be only muriate of lime or muriate of magnesia. Having converted it into an aqueous solution by previous evaporation, and subsequent dilution in a small quantity of distilled water, I found that it was precipitated by pure ammonia, and showed the presence of marine acid by the addition of nitrate of silver. Thus we have decided the presence of muriate of magnesia, half a grain.

Second—It will be perceived that the distilled water had taken up two grains of the residuum, from the solution in alcohol. To ascertain the properties of this, I evaporated this aqueous solution over a lamp in a glass vessel. When the evaporation was nearly finished saline cubic crystals appeared, which on examination, were found to be wholly muriate of soda, or common salt.

The third and last solution in marine acid, which consisted of one grain, was diluted with distilled water, and as I had no reason to doubt it contained the whole of the iron with which the water was impregnated, I added a few drops of succinat of ammonia, which immediately threw down a brown precipitate. When the whole of it was precipitated, the solution was filtered, and after the residuum had been exposed to a red heat it was weighed and examined, when it was found to consist of one grain of oxide of iron.

The analysis of the Pittsburg Mineral Spring having been thus completed, I shall here recapitulate the whole of its contents as it appeared from experiments, as follows—

Muriate of soda - - - -	2 0
Muriate of magnesia - - -	½
Oxide of iron - - - - -	1 0
Sulphate of lime - - - -	½
Total,	4 0

Quantity of carbonic acid gas in one quart of water, eighteen cubic inches.

V. *General remarks on the sensible properties of the Pittsburg Mineral Spring, and of its comparative qualities as resembling those most celebrated in Europe and America.*

When we take a view of the component parts of this mineral water, as they appear by analysis, we must perceive it is an uncommonly pure water, possessing all the qualities of a strong chalybeate. Those who are not accustomed to examine waters of this description, may at first feel some surprise at not finding it to contain a greater quantity of solid contents, but when we refer to the analysis of similar springs both in Europe and Ame-

rica, as performed by the most distinguished chemists in each country, we shall find that the Pittsburg spring possesses qualities equal to any of them, and to many is greatly superior. As an instance in point, I shall take for example, in the first place, the waters of Tunbridge, in England, one of the most celebrated and established chalybeates of that country, on which many treatises have been written, and much discussion taken place with respect to its medical qualities. According to the analysis of the celebrated Dr. Babington, the Tunbridge water contains only one grain of oxide of iron in a gallon of water, while the Pittsburg spring contains four times as much, viz. one grain in a quart. It also contains only ten cubic inches of carbonic acid gas in one gallon of water, while the Pittsburg spring contains eighteen inches in a quart. On the whole, its solid contents do not amount to more than one-fourth of the quantity we find in the Pittsburg spring; and yet this mineral spring is as much frequented as any in England, and is known to possess most valuable medicinal properties in those diseases to which it is applicable. But we shall refer to various mineral springs in this country of established reputation, where extensive buildings have been erected, and which are frequented with great advantage, by invalids from all parts of the union. In doing so I shall select those whose qualities are precisely similar, and whose virtues are to be attributed chiefly to their chalybeate qualities.

The mineral water of Schooley's mountain, in the state of New Jersey, is perhaps one of those which has for many years sustained the greatest reputation as a chalybeate. Having visited it myself, I have had an opportunity of observing its powerful medicinal qualities as a chalybeate, but for an accurate and able analysis of it, I must refer to an essay of Professor M'Neven, of New York, where it will be found that the whole contents of one gallon of the water are only about eight grains, two grains of which consist of oxide of iron—and that one quart contains nineteen inches of carbonic acid gas. Here then we have a mineral water of acknowledged reputation which does not contain much more than one-fourth the quantity either of iron or saline solid contents, which we find in the Pittsburg spring, and as nearly as possible the same quantity of carbonic acid gas. I could refer to many other springs of the same nature, in this country, possessing the same properties, but scarcely one have I ever examined, possessing them in the same degree; among others, the Yellow Springs, in Pennsylvania, where beautiful buildings are erected, and accommodations of every kind are prepared for the invalid; yet, having myself made an analysis of this water with great care, I found that it had no claim to rank as a chalybeate of a superior order. In fact, all those mineral springs which are impregnated with iron, held in solution by the carbonic acid gas, in whatever country they are situated, are properly called chalybeates, and are endowed with nearly the same medicinal properties. What these are I shall now proceed to point out.

VI. *On the medicinal qualities of the waters of the Pittsburg Mineral Spring, with observations on the effect of such waters on the system.*

The operation of the chalybeate waters, perhaps the most important class of natural medicines, has greatly occupied the attention of practical physicians. Much refinement has been introduced into the subject, which it is my intention to avoid, as my main object is to point out the principal effects which such waters produce on the system, and the diseases to which they are more particularly applicable. Let me however premise, that though the principal virtues in those waters are derived from their chalybeate impregnation, yet certain differences will arise, which modify or alter their operation. These may be traced either to the presence of an active neutral salt or to a large excess of carbonic acid. I cannot exemplify this better, than by referring to the waters of Ballston and Saratoga, all of which contain iron in greater or less quantity, but containing also, as most of them do, a considerable quantity of a neutral salt, the effects of the iron as a tonic are counteracted by the purgative quality of this salt, which totally alters their medicinal qualities, and renders the use of them inexpedient in many diseases, where a purely chalybeate water would have the most beneficial effects.

In taking the Pittsburg water as an example of a numerous class of natural springs, properly called chalybeates, I shall first make some observations on the effect of iron on the system, and then show that in the state in which it is found in such waters, it is particularly calculated for the cure of such diseases as preparations of iron are found beneficial in.

The effects of iron on the system are sufficiently numerous in the animal economy; it stimulates the fibres of the stomach and abdominal viscera; it augments the tone of all the muscular fibres; strengthens the nerves, and gives the whole weakened system remarkable energy; it increases the strength of the pulse, and from its use, the pale emaciated countenance assumes a healthy florid colour.

With regard to the various preparations of iron, those which seem best calculated for the purpose, are such as are most certainly conveyed into the blood, and most easily converted into oxide. Of these, iron dissolved by carbonic acid, and held in solution in a mineral water, seems by far preferable, and with respect to quantity, experience has shown us that small doses of iron produce better effects than large ones, particularly when persevered in, as should always be the case, for a considerable length of time. This observation is particularly made by the celebrated Dr. Cullen, and should always be attended to. Mineral waters, he remarks, often produce cures which we in vain attempt to perform by the combinations of iron in our shops, even although those waters contain nothing but iron; this is manifestly owing to the weakness of the dose, in proof of which we find that the strongly impregnated waters seldom answer so well as those which we commonly reject.

The Chalybeate water at Pittsburg I can venture to recommend for all purposes for which Chalybeates in general are given, and though the quantity of iron is small, yet it is equal to that contained in some of the most celebrated German waters, and greater than in many of those which are most esteemed and frequented in this country. The mineral spirit, or fixed air by which the metal is held in solution, should by no means pass unnoticed, as it is an agent possessing no small powers over the human frame, and if properly applied becomes one of the most useful remedies. To this principle most mineral waters owe their activity; it is this agent which holds many of their most powerful ingredients in solution, and enables them to pervade the remotest recesses of the human frame.

With these observations on the effect of chalybeates on the system, we are prepared to enter into the medicinal qualities of the Pittsburg spring.

The first effect of those waters, and which is easily and distinctly remarked in the water at Pittsburg, is decidedly of a stimulant kind. Soon after taking a few glasses of it, the pulse is increased in strength, the patient if previously chilly and pale, feels a glow occasioned by the increased circulation, and by persevering in the use of the water for a few days, the appetite becomes greatly increased, and the general spirits and health improved; these effects are more striking in some than others. It is not uncommon, however, on beginning a course of this water, for the patient to experience nausea, vomiting, and pain about the region of the stomach, or else a heaviness of the head, slight vertigo, and sense of fulness over the whole body. Sometimes these are so troublesome as to show that it was not adapted to the nature of the complaint, and to forbid the use of it, but in general these symptoms soon disappear after a little use, and particularly when an increase

of any of the natural excretions, such as the urine, or fæces, is established.

Such chalybeates, as the Pittsburg water, produce no certain action on the bowels, nor if we attend to the nature of their contents as they appear by analysis, could it be expected, when the bowels are foul, and loaded with bilious sordes. The water often purges pretty briskly at first, but this is a very desirable circumstance, and its operation in this way soon ceases, when the intestines are restored to their proper state. The secretion which this mineral water most commonly excites is that of urine, and this is generally in the greatest quantity, when the water best agrees with the habit of the patient.

The general operation of such waters is to increase the power of the secretory system in a gradual and uniform manner, and at the same time to impart vigour to all the functions. It is therefore chiefly in chronic disorders, and those which are attended with great laxity and debility of the solids, that such waters as we speak of are found to be peculiarly useful.

Chalybeates, such as this, are of eminent service in an impaired or capricious appetite, weakness of the assimilatory organs, irregular digestion, flatulent distention, and an occasional vomiting of viscid mucus. These are the usual symptoms of a disease called dyspepsia, which is of frequent occurrence in this country, and which often baffles the aid of medicine in any other form but that of a natural chalybeate combined with exercise, and a proper regulation of diet. But in recommending this water as a powerful tonic, I wish it to be perfectly understood, that it should be used only in those cases where all traces of active inflammation have subsided, such as complaints of the biliary organs of the alimentary canal, or any of the viscera, arising principally from intemperance or from climate, and frequently accompanied with jaundice. It is by being employed injudiciously in these cases, and before the inflammatory diathesis is removed, that such chalybeates have often disappointed the sanguine expectations of those who have resorted to the use of them.

Neither the design nor the limits of this essay will permit the taking of a more extensive view of the various diseases for which chalybeate waters may be considered as valuable remedies. Enough has been already said to recommend such mineral waters to those who are afflicted with complaints for which tonics, and particularly combinations of iron, are preferable to many of our common medicines. I have as yet but slightly alluded to one quality which this mineral spring at Pittsburg has been observed to possess. It has been already stated in the analysis, that a slight impregnation of sulphur, in the form of sulphuretted hydrogen, is present in this spring. It is true, that subsisting as it does only as a gas in the water, the effect of the sulphur as a medicine may not be very apparent, but still such waters possess some medicinal qualities, and if highly impregnated with it, are valuable remedies in herpetic and other cutaneous disorders, assisted by the frequent use of the warm bath, which, at watering places, is always to be found, as a necessary and suitable appendage to such establishments.

MINERALOGICAL NOTICES,

By George W. Carpenter, of Philadelphia.

Originally published in Silliman's Journal,

CHESTER COUNTY.

Assisted by my friend Mr. George Spackman, of Philadelphia, I published in the 9th Vol. of this Journal, an account of the various minerals, which we found on a tour made in 1825, through Chester county and part of the state of Delaware. On a late revisit to these localities, and a further extent of investigation, I discovered many additional localities of interesting minerals, which with the previous catalogue already described, will embrace most of the minerals contained in the several townships which have yet been explored.

Chester county presents to the mineralogists a rich field for investigation. Her limestone, serpentine and gneiss, the predominant rocks of the county, contain inexhaustible beds of interesting minerals, and the numerous quarries every where in operation, greatly facilitate the means of procuring them. These circumstances, with the polite attention manifested towards strangers by the inhabitants of the county, and the singular hospitality which particularly characterizes them, are inducements of the strongest nature for encouraging the mineralogist, to visit this county in preference to almost any section of country.

It is a gratifying circumstance for the lovers of natural history, to learn that mineralogy, in its most interesting, useful and important department, is making rapid advancement in this county. Almost all classes of society are taking an interest in its promotion, particularly the farmers, and if the same zeal and ardor for investigation continue uninterrupted, we may reasonably expect some valuable acquisitions to result from their researches.—Already several valuable materials have been found in abundance. Magnesite and ferruginous oxide of chrome, (chromate of Iron)* have been extensively and advantageously worked for epsom salt, and chrome yellow. These articles, a few years since, were received exclusively from England; they are now made from the above materials of equal quality as the foreign, and at a lower rate than they can be imported, which has eventuated in the total exclusion of the foreign articles, and such has been the march of improvement, and the advancement of science, that a cabinet of Natural Science has been established at West Chester,† and is now in a flourishing condition, and under the most favourable circumstances for becoming a highly useful and important institution. An institution of the same kind has just been established at Wilmington, under the most favourable auspices, and bids fair to prosper.

Among the townships of Chester county, East Marlborough, London Grove, Newlin and East Bradford, have been most examined. Pennsbury, Kennet, New Garden, West Marlborough, West Bradford, West Goshen and Westown, have been examined to a certain extent. Penn, Londonderry, Upper and Lower Oxford, East and West Fallowfield, New London, and East and West Nottingham, have been scarcely examined at all by the mineralogist. The townships which have not yet been explored, are in the south west part of the county, and as most of them contain abundant beds of limestone and ridges of serpentine, they will no doubt disclose, on examination, many new and interesting minerals.

East Marlborough is more remarkable for the great variety of minerals, than for the abundance of any one kind, except the carbonate of lime, which forms extensive beds throughout the township, and the extreme value of this mineral in enriching and improving the soil, is admirably displayed, in the luxuriance of almost every vegetable species within its influence.

Newlin is not only remarkable for a considerable variety of minerals, but particularly for the great abundance of its serpentine, quartz and beryl; the two latter occur of an interesting character, and are extremely abundant, particularly the beryl, which constitutes almost a distinct formation, and the place has, from this circumstance, been denominated by the mineralogists, beryl hill, by which name it is known through several townships. Large quantities of detached crystals of

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* This mineral has been very improperly termed chromate of iron by the most respectable authors. Iron forms a very inconsiderable proportion of the mineral, and the chrome is not in the state of an acid but in that of an oxyde; it may therefore with more propriety be called a ferruginous oxide of chrome.

† See Register, vol. 1. p. 302.

beryls, may, at all times, be dug within a foot or two from the surface. Drusy quartz, of white, yellow and rich green colours, occurs in considerable quantity, in the vicinity.

Westown Township.

This township was not noticed in the former description, and has been as yet but partially explored; the following are the most important minerals which have been discovered.

Earthy and ferruginous oxide of manganese, of excellent quality, for employment in the arts and manufactures. I presented a sample to Mr. Abraham Miller, an ingenious potter of this city, who made use of it in his manufacture, and pronounced it equal to the imported. It occurs on Joseph Osburne's farm, three miles south of West Chester. It has not yet been worked, but its position and external appearances render it probable, that it is abundant.

Siliceous oxide and carbonate of manganese, of a reddish and yellowish brown colour, and of a somewhat foliated structure, same locality.

Manganesian garnet, massive, of a reddish brown colour, same locality.

Black schorl, traversing quartz in cylindrical crystals, very beautiful, on Joseph Osburne's farm.

Fine acicular and fibrous hornblende, of a jet black colour, same locality.

Limpid and smoky quartz, in beautiful transparent crystals, hexahedral prisms terminated by pyramids, loose in the soil, Joseph Osburne's farm.

A mine was opened on this farm about sixty years since for silver ore, and a small portion of the metal was obtained. It was however abandoned in consequence of the minute quantity yielded, and a doubtful prospect of its producing advantageously. The oxides and carbonates of manganese, and the manganesian garnet, occur also, on William Osburne's farm adjoining.

East Bradford Township.

Cyanite, in oblique tetrahedral prisms, (primitive form,) from one quarter to one inch in thickness, and from one to three inches in length, occurs in mica slate and detached crystals, on the Strasburg road, near the bridge on the east branch of the Brandywine—abundant.

Zircon, an interesting locality of this mineral occurs in blueish quartz, near Jeffries' ford.

Feldspar, of a blueish colour and lamellar structure, occurs near Jeffries' ford on the Brandywine.

Amethyst, of a rich violet colour, highly transparent, in hexahedral prisms terminated by pyramids, occurs detached in the soil, on James Gibbon's farm, three miles south of West Chester. Fine specimens from this locality, are in the cabinet of Natural Sciences of West Chester.

Sulphuret of iron, in large cubic crystals, on R. Woodward's farm.

Red oxide of titanium, same locality.

Sulphuret of iron, in cubic crystals, on Job Darlington's farm. Plumbago, same locality.

Necronite, well characterized in disseminated masses, in Benjamin Copes' quarry.

Schorl, of a beautiful jet black colour, on J. Painter's farm.

Pennsboro' Township.

Necronite, in carbonate of lime, in Mendenhall's lime quarries.

Amethyst, in beautiful violet crystals, on George Darlington's farm, adjoining Wister's.

Bog iron ore, same locality.

Mica, in regular hexahedral prisms, in granite, near Darlington's mill.

Newlin Township.

Green quartz, in drusy clusters and prismatic crystals, on the serpentine ridge near Mason's farm.

Limpid quartz, in hexahedral prisms terminated by pyramids, in carbonate of lime, in Edwards' lime quarries.

Fluate of lime, of a deep blue colour, in small cubic crystals, same locality.

Calcareous spar, in rhombic crystals and hexahedral prisms, having irregular sides, same locality.

Schorl, in beautiful cylindrical crystals, of a jet black colour, same locality.

Beryl, of a rich green colour, near William Embrie's malt house, in detached crystals.

Green mica, in foliated masses and crystallized in granite, near the celebrated beryl locality.

Green foliated talc, same locality.

Sulphuret of iron, in cubic crystals, same locality.

Mica, of a grass green colour, beautifully striated, near Brandywine bridge, three miles west of Chester county poor house.

East Marlborough Township.

Iserine, in detached crystals and granular masses, at David Persey's mill race, also in quartz, in tetrahedral prisms striated, in John Baily's lime quarry.

Tremolite, beautifully crystallized, in oblique four sided prisms, the acute lateral edges truncated with dihedral summits, in John Baily's lime quarry.

Sulphuret of iron, in cubic crystals occasionally truncated, on all its angles, also in dodecahedrons, in John Baily's lime quarries.

Epidote, in hexahedral prisms, sometimes truncated on the edges, of a yellowish green colour on Isaac Taylor's farm, adjoining John Baily's south.

Foliated talc, white and green, on A. Marshall's farm, also on McCloud's adjoining.

West Marlborough Township.

Phosphate of lime, in hexahedral prisms, of a yellowish green colour, in granular limestone, in Bernard's quarry.

Iserine. Beautiful specimens of this mineral occur in tetrahedral prisms, truncated on the angles, longitudinally striated, with oblique summits, in Bernard's lime quarry.

Brown spar, in small rhombic crystals, with the planes slightly curved, in Bernard's lime quarry.

Dogtooth spar, (carb. of lime) in semi transparent straw coloured crystals. McNeal's lime quarry.

New Garden Township.

Fibrolite, of a greyish white colour, in little bundles of delicate fibres and acicular crystals intimately connected, on Nathan Scarlet's farm, south of Phillip's quarry.

Black schorl, in cylindrical crystals and fibres, a very beautiful variety of this mineral, same locality.

Phosphate of lime, in hexahedral prisms, of a green colour, same locality.

Garnets, in dodecahedral crystals, of a deep red colour, in mica slate, same locality.

Fibrous carbonate of lime, in J. Phillip's lime quarry.

Carbonate of lime, in beautiful arborescent mammilary and botryoidal concretions, in Joshua Pusey's lime quarry.

Tremolite, in fine acicular crystals, and fibres of a pure snow white colour, radiating and diverging, in Brown's quarry.

Kaolin, an extensive bed of this mineral occurs on Israel Hoope's farm, New Garden township. This substance is extensively employed in the manufacture of porcelain ware. Two manufactories, and the only ones yet established in this country, are supplied from this locality.

West Bradford Township.

Diallage and saussurite, near Worth's tavern, on the Strasburg road.

Chromate of iron, in detached masses, and disintegrated crystals, same locality.

Epidote, in beautiful hexahedral prisms, with dihedral summits, of a resplendent bottle green colour; the crystals are from one half to three inches in length, and from 1 1-8 to ¾ of an inch in diameter, fully equal in size and

beauty to those of the celebrated locality of Arendal in Norway, occurs in primitive hornblende, on Smith's and McMullins farms, adjoining each other.

Zeolite, in fascicular groups of minute crystals and fibres, radiating from a central point, of a snow white colour, and pearly lustre, forming narrow veins in primitive hornblende, on Robert Lambern's farm.

Chabasie, in rombic crystals, of a reddish brown colour, in hornblende associated with zeolite, same locality.

Silico-calcareous oxide of titanium, in rhomboidal prisms, with dihedral summits, in a gangue of hornblende and feldspar, same locality.

Blue feldspar, of the lamellar variety, striated on the surface, same locality.

Mica, in rhomboidal and hexahedral prisms, in granite, one mile north of Sharplesstown, on the Wilmington road.

Amethyst, of a deep violet colour, in hexahedral prisms, with pyramidal terminations, loose in the soil, on George Passmore's farm.

Fetid quartz, well characterized, in R. Wood's lime quarry.

Limpid quartz, in hexahedral prisms, with pyramidal terminations, in the lime quarries near the poor house.

Iserine, in striated cylindrical crystals, imbedded in quartz, same locality.

Sulphuret of iron, in cubic crystals, occasionally truncated on the angles, same locality.

London Grove Township.

Tremolite, in fibrous and radiated masses, in Ephraim Wilson's quarry.

Phosphate of lime, perfectly transparent, of a rich bottle green colour, in hexahedral prisms and massive, on Allison's farm; this interesting locality was discovered by Dr. Allison who has liberally distributed specimens among our mineralogists.

Tourmaline, of a beautiful velvet black, in hexahedral prisms, terminated with trihedral faces, set on the lateral edges, on William Jackson's farm.

Red oxide of titanium, in tetrahedral prisms, with dihedral summits in gneiss, also massive, on Wm. Jackson's farm.

Iserine, in tetrahedral prisms, truncated on the angles, and longitudinally striated, in W. Jackson's lime quarry.

Tremolite, crystallized, and in radiated fibres, same locality.

Foliated and fine scaly talc, of a white colour, in Mitchiner's quarry, adjoining W. Jackson's.

Brown tourmaline, in hexahedral prisms, in carbonate of lime, a beautiful mineral, in W. Jackson's, and Pile & Morrison's lime quarries.

Crystallized quartz,* in hexahedral prisms with pyramidal summits, transparent, in Pile & Morrison's quarry.

Brown spar, in rhombic crystals, slightly curved, of a brownish colour and beautiful pearly lustre, same locality.

Fetid quartz, well characterized, same locality.

Magnesian carbonate of lime, in rhombic masses and crystals, same locality.

Quartz, of a milk white colour, on W. Jackson's farm.

Cyanite. An interesting locality of cyanite in the primitive form, has been discovered in this vicinity, by Dr. Allison.

Garnets, in dodecahedral crystals, abundant in the gneiss rocks, and detached, on W. Jackson's farm and neighbourhood; a specimen in the museum of the West Chester cabinet, measures 6.75 inches in circumference.

* A specimen of limpid quartz from Morrison's quarry, presented to the cabinet of Natural Sciences by W. Jackson, and now in their museum, a hexahedral prism with pyramidal termination, measures sixteen inches in circumference.

Specular oxide of iron, in quartz, near London Grove meeting house.

Mica, of a leek green colour, on W. Jackson's farm.

Cyanite, in fascicular groups, of bladed crystals, of a pale and sky blue colour, on W. Jackson's farm.

Black and reddish brown schorl, in acicular diverging crystals, and fibres in quartz, on W. Jackson's farm.

Smoky quartz, six sided prisms, detached in the soil, on W. Jackson's farm.

Calcareous spar, striated diagonally, to the rombic cleavage, on W. Jackson's farm.

Dogtooth spar, of a straw yellow colour, in semi-transparent crystals, in W. Jackson's lime quarries.

Epidote, in hexahedral prisms, of a bottle green colour, in Mitchiner's lime quarry.

Red jasper, in detached masses, on W. Jackson's farm.

New London Township.

Fibrolite, in delicate fibres, intimately connected, of a greyish white colour and glistening aspect, on Robert Hudson's farm.

Schorl, in cylindrical crystals, of a jet black colour, same locality.

Sundry Localities in Chester County.

Zoisite, in rhomboidal, cylindrical and acicular crystals, of a grey colour, in gneiss, in Bathwoods, near West Chester, West Goshen township, discovered by Townsend Haines, Esq.

Oxide of iron, the red hematitic variety, on the serpentine ridge, Nottingham township.

Magnesite, forming narrow veins, in the serpentine ridge, West Goshen.

Mica, in beautiful hexahedral prisms, Kennet township.

Stalactical carbonate of lime, of a snow white colour, in arborescent, reniform, mammilary and botryoidal concretions, in John Robert's lime quarry, West Whiteland, Chester county, four miles north of West Chester.

Actynolite, in chlorite slate, near Waggontown, Chester county.

Amianthus, in delicate silky fibres, forming minute veins in serpentine, Joseph Taylor's quarry, West Goshen, near West Chester.

Plumbago, in quartz, near Charleston village, Charleston township.

Epidote, in hexahedral prisms, of a yellowish green colour, Strode's mill, near West Chester.

Oxide of iron, highly magnetic, near Goshen meeting house, East Goshen township.

Garnets, in dodecahedral crystals, of a brown colour, abundant on A. Hoope's farm, East Goshen township.

Bog iron ore, on Pennypacker's farm, Charleston township.

LANCASTER COUNTY.

Little Britain Township,

Octahedral magnetic oxide of iron, on the serpentine ridge, on Joel Jackson's farm.

Massive and crystallized ferruginous oxide of chrome, or chromate of iron, occurs on a minor ridge of serpentine, about a mile north of the main serpentine ridge, being about two miles west of the southern western point of Chester county, on the property of McKim, Sims & Co. of Baltimore, adjoining Joel Jackson's farm. The disintegrated crystals of chromate of iron, are found coating the cavities of all the ravines made in the sides of the hill, and indicate the existence of this valuable material in quantity.

Magnesite. An extensive locality of this valuable mineral occurs, forming veins in the serpentine of considerable thickness, same locality; and is now extensively quarried and manufactured by Messrs. McKim, Sims, & Co. of Baltimore, into sulphate of magnesia, (epsom salts.) These gentlemen have succeeded in making a purer salt at a much less price than it can be imported, which has entirely excluded importation; and the United States are now almost entirely supplied from this establishment. Four hundred or five hundred tons of

magnesite, have been obtained from this locality, and Messrs. McK. & S. manufacture 1,500,000 lbs. of Epsom salt annually.

Actynolite, in green compressed crystals, in talc, serpentine ridge, on Joel Jackson's farm.

Noble serpentine, with delicate veins of amianthus, serpentine ridge, on Joel Jackson's farm.

Chalcedony. An interesting locality of this mineral occurs near the magnesite above described, about one and a half miles distant from the celebrated locality at Rocks springs, described in my former paper, and near the locality of magnesite and chromate of iron.

BUCKS COUNTY.

Magnetic Oxide of iron, half a mile above Newport, on the Neshamony creek. This ore was formerly worked, but has been abandoned, in consequence of not producing advantageously.

Serpentine, having distinct laminæ, slightly curved. These pervade the serpentine in spots, and when viewed in direction of the laminæ, have a shining and pearly lustre, and when contrasted with the greenish black, dull, and opaque colour of serpentine, have a glistening and metallic appearance, somewhat resembling hypersthene, half a mile below Newport, on Roldman's run.

Lamellar feldspar, the glassy variety and graphic granite, at Newport.

Tourmaline, of a rich black colour, in eight sided prisms, longitudinally striated, terminated by three sided pyramids, in granite which forms veins in gneiss, at Nevil's academy, near Bustleton.

Cyanite, of a fine blue colour, in flat crystals or blades, in quartz, forming a vein in gneiss, near the same locality.

Scaly talc, in detached masses, occasionally containing asbestos, same locality.

Asbestoid actynolite, in silky fibres and acicular crystals, radiating from a centre in beautiful tufts, in detached masses, from one to fifty pounds weight, in a wood, half a mile east of Bustleton.

Magnesian garnets, massive, of a lamellar structure, on the Penny pack creek, three miles from Bustleton, at the mouth of the Sandy run.

Black oxide of manganese, in gneiss same locality.

Phosphate of lime, in six sided prisms, terminated by six sided pyramids, of a light green colour, in quartz, same locality.

Iridescent feldspar, of a blueish white colour, resembling the Labrador spar, on the farm of Mr. Jacob Van Arsdalen, three miles west of Attleboro,' and seven north of Bustleton.

Tremolite, of a grass green colour, in carbonate of lime, in oblique tetrahedral prisms, having the acute edges truncated, with dihedral summits, occasionally transparent, Van Arsdalen's farm, same locality.

Actynolite, of a deep green colour, same locality.

Mica, in six sided prisms, in granite, fibrous structure, in a diagonal direction to the angles of the prism, in which direction it may be cleaved, and numerous delicate fibres separated, on the Penny pack creek, one mile south west of Bustleton.

For the discovery of the above localities, in Bucks county, we are indebted to our friend Dr. Edward Swift, an indefatigable mineralogist of Bustleton, Pa.

At the locality of tremolite, iridescent feldspar and actynolite, on Jacob Van Arsdalen's farm, the following interesting minerals, also occur, which render this locality sufficiently attractive to mineralogists.

1. Tabular spar, in masses of several tons weight, analyzed by Dr. Morton, and Mr. J. P. Wetherill, who obtained the following constituents:

Silex, - - - - -	51,50
Lime, - - - -	44,10
Oxide of iron, - - -	1,00
Lost by calcination, - -	75
	97,35

2. Scapolite, massive and crystallized. 3. Pyroxene, in hexahedral prisms. 4. Zircon, forme soustrative of Hauy. 5- Mica, clove brown, and emerald green. 6. Blue quartz, in small quantity. 7. Feldspar, massive, of a dark blue colour, also in rhombic prisms, with the terminal angles truncated, *Unitaire* of Hauy. 8. Garnet, granular and in small dodecahedral crystals. 9. Phosphate of lime, massive, and in hexahedral prisms. 10. Graphite, massive, and in delicate hexagonal tables. 11. Sulphuret of iron, massive, and in octohedral crystals. 12. Silico-calcareous oxide of titanium, in oblique four sided prisms.

I have merely given a catalogue of these minerals, as an elaborate and detailed account of them, has been published by Dr. Samuel G. Morton, of Philadelphia, in the Journal of the Academy of Natural Sciences of Philadelphia, for June, 1827.

PHILADELPHIA COUNTY.

Sil.-calcar. oxide of titanium, in oblique four sided prisms, at Radner's mill, near the falls of Schuylkill, also on the township line road, near Rittenhouse's smith shop.

Phosphate of lime, massive, and in hexahedral prisms, imbedded in feldspar, on the township line road, same locality.

Graphite, massive, in gneiss rock, on Robinson's hill, on the Schuylkill, five miles from Philadelphia.

Limpid quartz, in hexahedral prisms, with pyramidal terminations, in detached crystals, same locality.

Chalcedony, on Longstroth's farm, near the York road, five miles from Philadelphia.

White beryl, in granite, hexahedral prisms, in Day's cave, near the residence of William Wister, Esq.

Graphic granite, and laminated feldspar, same locality.

Cyanite. in bladed crystals, from a pale to a deep sky blue, in granite, near Livezly's mill, on the Wisahicon.

Tourmaline, of a velvet black colour, in hexahedral prisms, near Rittenhouse's paper mill, on the Wisahicon.

Hematite, (brown oxide of iron,) in mammilary masses, near Jacob Wise's mill, on the Wisahicon.

Red oxide of titanium, massive and crystallized, in clay slate, on Wise's lane, near Wisahicon.

Limpid quartz, in pyramidal clusters and drusy aggregates, same locality.

Smoky quartz, highly transparent, near the township line road, six miles from Philadelphia.

Manganesian Garnet—this mineral is of a brownish red colour, of a compact texture and occurs massive, imbedded in the soil between Germantown turnpike, and Roxborough township line road, six and a half miles from Philadelphia, abundant.

Actynolite, in compressed acicular crystals, traversing a granular mass, occurring on the township line road six miles from Philadelphia.

Schorl, of a beautiful velvet black, in cylindrical crystals more or less aggregated, occurring in granite rock on the old York road, five miles from Philadelphia, abundant, in this same rock occurs the *white beryl.*

Limpid Quartz, crystallized in six sided prisms, terminated by six sided pyramids, with some modifications, occurring loose in a ploughed field between Germantown and the old York road, five miles from Philadelphia.

Actynolite, of the glassy variety, in talcose rock, of a fine green colour, in irregularly grouped acicular crystals, eleven miles from Philadelphia on the Wisahicon creek.

Chromate of Iron at the same locality (abundant.)

Pseudomorphous Quartz—these imperfect or false crystals are generally opaque, surface dull and of a variety of forms; it is sometimes also in small globular or

reniform masses radiated from the centre and in botryoidal clusters, occurring in an old quarry between Germantown and York road, five miles from Philadelphia (abundant.)

8. *Crystals of Mica*, imbedded in granite, in rhomboidal and six sided tables and prisms, on the township line road, six miles from Philadelphia.

9. *Staurotide*, in mica-slate, Wisahicon creek, 6 miles from Philadelphia.

10. *Phosphate of Lime*, in long slender six sided prisms of a pale green colour in granite rock at Germantown, six and a half miles from Philadelphia.

PROCEEDINGS OF COUNCILS.

At a special meeting of Councils held August 6, 1828, Dr. Thomas Ritchie, was elected a member of the Board of Health, for the unexpired time of James Kitchin, esq. deceased.

COMMON COUNCIL.

Mr. Linn presented a petition from the inhabitants of Pine street, residing between Third and Fourth streets, praying that the market carts may be removed to Fourth street below Pine street. Referred to Market Committee.

Mr. Troth presented a petition from the owners of property fronting on Lodge alley, praying that it may be regulated and repaved. Referred to paving committee, with power to act on it if they deem it expedient.

Mr. Walmsley, as chairman of the committee of accounts, made the following report, which was adopted and concurred in by Select Council.

The Committee of Accounts to whom was referred Lydia R. Bailey's Bill for Printing and Stationary, beg leave to Report,

That they have examined the same, being from April 12, 1827, to May 19, 1828, inclusive, and find it correct.

They therefore recommend the adoption of the following resolution:

Resolved, by the Select and Common Councils, that the Mayor be requested to draw his warrant on the City Treasurer in favor of Lydia R. Bailey, for four hundred and twenty three dollars sixty two cents, and that the same be charged to appropriation No. 21.

Mr. Smith, as chairman of the committee to whom was referred the letter of the County Commissioners, reported an

ORDINANCE

To permit the County Commissioners to make certain openings into the Common Sewer in Mulberry-st.

Section 1st. *Be it ordained and enacted by the Citizens of Philadelphia, in Select and Common Councils assembled*, That the County Commissioners be and they are hereby permitted to make such openings and necessary stench traps, into the Common Sewer in Mulberry street, as may be requisite to carry off the water from the Arch street Prison, under the direction and superintendence of the City Commissioners.

Mr. Lowber offered the following resolution:

"Resolved, by the Select and Common Councils, that the Paving Committee be instructed to inquire into the expediency of having those parts of Chesnut, and Fifth and Sixth streets, adjacent to the Court Rooms, laid with flag stones, or prepared in such way as will prevent the noise which now renders the said rooms inconvenient for the transaction of the business of the said Courts."

Adopted and concurred in by the Select Council.

Mr. Smith offered the following resolution:

Resolved, by the Select and Common Councils, that the offer of James Patton, Jr. for renting Sassafras street wharf, for three years, at the rate of one thousand dollars per annum, be accepted and that the City Commissioners be directed to have the necessary contracts drawn with provisions therein inserted, that he shall not use the same for storing lumber or naval stores, and rent payable quarterly. Adopted and concurred in by the Select Council.

Mr. Donaldson read in his place,

AN ORDINANCE

Amending an Ordinance, entitled an Ordinance, fixing the width of the Cartway in Strawberry Alley, passed July 10, 1828.

Be it ordained and enacted by the Citizens of Philadelphia, in Select and Common Council assembled, That the width of the Cartway in Strawberry alley shall be 10 ft. any thing in any existing regulation or ordinance to the contrary, in any wise notwithstanding.

SELECT COUNCIL.

Mr. Toland as Chairman of the Committee on Penn Square, made the following report:

The committee on Penn Square, beg leave to report, viz: That they have directed the city commissioners to take down the fence, and remove the rubbish, &c. &c. from said square, and when the survey of it is completed, to designate the boundaries of the four squares, or plots by posts.—That they have requested the city surveyor to fix the regulation of the square, as soon as his other public duties will permit.—The season being now advanced, the Committee are of opinion, that the permanent embellishment of it, may be deferred until the ensuing spring, and for the present beg leave to offer sundry resolutions, which they consider proper to be adopted.

Resolved, By the Select and Common Councils, that Market street running through Penn square be paved, and that the city commissioners be, and they are hereby authorized, to take up the curb and pebble stones, forming the southern semi-circle of said square, to be used therefor.

Resolved, That the streets bordering on Penn Square be curbed and levelled.

Resolved, That the committee be empowered to direct the trees, now on the square, to be cut down and removed, whenever in their opinion they may deem it proper.

Laid on the table.

The Select Council concurred in the resolution passed by the common council at their former meeting, requesting the city treasurer to have 200 copies of the accounts of the corporation of the city of Philadelphia, from 1st day of April 1823, to 1st day of January 1828, published.

The Select Council also concurred in the following resolution, passed by the common councils at their former meeting:

"Resolved by the select and common councils, That the mayor, recorder, aldermen and city regulators be requested to review the regulation in Third street below Willing's alley, and report if any and what alteration in said regulation be necessary."

The select council also passed the ordinance relative to altering the curb stones in Water street between Market and Arch streets.

AN ORDINANCE

Regulating the curb-stone in a part of Water street, between High and Mulberry street.

Section 1. *Be it ordained and enacted by the citizens of Philadelphia, in Select & Common Councils assembled*, That the curb-stones on the east side of Water street, between Clifford's alley and the next alley south of it, be replaced in the same situation in which they stood immediately before the twelfth day of June, 1828.

—

At a stated meeting of councils held August 14.

COMMON COUNCIL.

A communication from the city commissioners was received stating they had received a letter from Mr. James Patton declining the lease of Sassafras street wharf, under the restrictions—referred to committee on said wharf.

A communication from the owners of property near the intersection of Thirteenth street and Pine street, praying for an alteration in the regulation of said streets

The following communication from the Mayor, Recorder, Aldermen, and City Regulators, was received.

To the Select and Common Councils of the City of Philadelphia.

The undersigned, Mayor, Recorder, Aldermen and City Regulators, respectfully represent—

That in pursuance of a resolution of Councils of the 5th of August, 1828, they have viewed Delaware Third street from Walnut to Spruce street, and do agree to report, that in their opinion there is no necessity for any alteration in the established regulation of ascents and descents in that square—But in lieu thereof they do *earnestly recommend* to Councils to direct so much of the said street between Walnut st. and York court, to be forthwith repaved, as may be necessary to carry the said regulations into full and complete effect, which they believe will remove the complaints which have so long and so justly existed in that neighbourhood.

Mr. Linn, as chairman of the committee for a survey of the river Schuylkill, made the following report:

The committee appointed to cause a survey of the river Schuylkill, from Fair Mount to the river Delaware, report:

That in pursuance of the said resolution, they contracted with Mr. David McClure, to survey said river, on the conditions detailed herewith, which he has fulfilled to the entire satisfaction of the said committee, and furnished them with a draft of said river, which accompanies this report, as well as with his observations thereon, as follows:

"The trust which the Councils have been pleased to commit to me in the survey of a section of the Schuylkill, I have successfully accomplished, and it will no doubt be satisfactory to know, that in drafting the same, the proofs of its accuracy were afforded by those cross sights and additional bearings, which your surveyor had the precaution to make.

"Since the survey of 1819, I find, at the mouth of the Schuylkill, some small alteration in the bar, though nothing material to affect the navigation. Great care was taken accurately to ascertain the state of the bar, and the entrance of the river, and it will be found by examining the chart, that there is at low water, 8 feet, which is something less than the sounding as was found in 1819. It would naturally be suggested, that in consequence of the great body of the Schuylkill water that is thrown into Philadelphia, at Fair Mount, the velocity of the current would be much impeded, and the bar be exposed to deposition of the alluvial borne down by the current.

"The navigation of the Schuylkill is perfectly easy, the soundings, as will be seen by the Chart, being indicative of a regular formed channel. Some caution, however, must be taken, in entering the river, and also to avoid a small bar, running out at the point, situate on the east side of the river, and about the third of a mile above the upper termination of the bold gravel shore, on which is erected the Hamburg and other taverns. A small rock between the city and Gray's ferry, has an imperious claim to the attention of the Councils. This rock, at low water, is elevated about three feet, but at high water is below the surface from two to three feet; and as the rock is situated as far as one-fourth across the river, vessels are greatly in danger of getting foul of it. During the last year this misfortune happened to two vessels, and they were in so perilous a situation that they were under the necessity of immediately discharging their cargoes. A small buoy would be all that would be requisite to give the necessary intimation to strangers, of the situation of this rock, which can at all times be easily avoided.

Every thing important has been carefully inserted on the draught, and the soundings, which are numerous, are all exhibited as taken at low water. In this survey additional proofs have been afforded of the accuracy of those experiments and observations communicated to Councils in the report of the survey of the Delaware in 1819, and there is no doubt that with some attention to that subject, and by a proper improvement of the hints therein suggested, the navigation of the river at the bar may be greatly improved. Respectfully yours,

(Signed) DAVID McCLURE."

Your committee beg leave to report further, that after examining the said observations, and consulting with the Master Warden of the city of Philadelphia, they are of opinion that it is adviseable to fill up the false channel now forming on the south side of the mouth of the river, and to prevent any further imposition on the part of evil disposed persons to give a false impression as to the difficulty attending the navigation of said river, they offer the following resolutions:

Resolved, That the Copy Right of the Survey of the River Schuylkill be secured to the Corporation of the City of Philadelphia, and that the same be engraved, and 500 copies struck off, and placed in the hands of the City Treasurer, to be sold at cost, to all applicants.

Resolved, That the Wardens of the port of Philadelphia be requested, if they deem it expedient, to sink a hulk in the false channel of the Schuylkill, so as to fill up said channel, and to cause two posts or poles, with proper marks, to be erected at the mouth of said river, to designate the channel, and to be leading marks for entering and leaving the said river, and also to cause buoys to be placed on the rock, designated in said report of D. McClure.

Resolved, That the sum of $200 be placed at the disposal of the committee for carrying into effect the above resolutions, and the same be charged to No. 21.

Philadelphia, Aug. 12, 1828.

Mr. Fell, as Chairman of the Committee on Markets, made the following report:

The Market Committee, to whom were referred two several petitions, one from sundry owners, part owners, or residents, in or near Decatur streets, praying that the said street may no longer be appropriated as a stand for market carts, and the other from Joseph Carr, praying that one side of Eighth street below Market street, may be appropriated as a stand for market carts—Respectfully report, That they have taken those petitions into consideration, and are of opinion that it is inexpedient to grant the prayers of the petitioners, and ask to be discharged from further attention to the subject.

Mr. Johnson offered the following resolution:

Resolved, by the Select and Common Councils, That the Mayor, Recorder, Aldermen, and City Surveyors, be and they are hereby requested to view the regulations, at the intersection of Pine and Thirteenth streets, and report to Councils if any and what alterations are necessary to be made in said regulations.

Adopted, and Select Council concurred.

Mr. Linn offered the following resolution:

Resolved, by the Select and Common Councils, That a joint committee of three members from each Council, be appointed to ascertain whether, and on what terms, Windmill Island, opposite the city of Philadelphia, latterly known by the name of Smith's Island, can be purchased from its present holders; and to report upon the expediency thereof, as well as on all other matters in connexion therewith as may appear necessary.

Adopted, and Common Council appointed on their part, Messrs. Linn, Jones, and Hafnes.

Mr. Smith offered the following resolution:

Resolved, by the Select and Common Councils, That a joint committee of one member of each Council be appointed to cause the improvement to be made at the Fish market, at the south end of Second street market, agreeably to a plan laid before Councils this evening, and when completed, that the Mayor be requested to draw his warrant on the City Treasurer for the expense thereof, and charge the same to appropriation No. 14.

Adopted, and Mr. Smith was appointed on the part of the Common Council.

Select Council concurred, and appointed Mr. Thompson.

Mr. Lowber offered the following resolution:

Resolved, by the Select and Common Councils, That the Mayor be requested to draw his warrant on the City Treasurer, in favour of Clement S. Miller, Esq. for the sum of seven hundred and sixty dollars, to be charged to appropriation No. 21.

Adopted, and concurred in by Select Council.

Mr. Linn offered the following resolution:

Resolved, by the Select and Common Councils, That a committee of two members from each Council be appointed to ascertain the expediency of having posts, (with rings) placed along the side of the curb stones, on stands for drays, at such distances as the owners of drays can attach their horses to them, and thereby prevent the great danger and inconvenience attending the present manner of standing-

Laid on the table.

SELECT COUNCIL.

A communication from the Hope Engine Company, was received, and referred to Committee on Fire Companies.

Mr. Toland moved to take up for consideration the report and resolutions from the Committee on Penn's Square, which was agreed to.

Mr. Toland then moved to amend the first resolution so as to read thus:

Resolved, by the Select and Common Councils, That the city commissioners cause High street running through Penn's Square to be paved.

Which was adopted, and the Common Council concurred therein.

The second and third resolutions were then agreed to, but the Common Council added an amendment to the second resolution, which was postponed by the Select Council.

Mr. Reed offered the following resolution:

Resolved, by the Select and Common Councils, That the city commissioners be and they are hereby directed to repair, forthwith, the alley running from Seventh to Eighth streets, between Chesnut and Sansom streets. Adopted, and the common council concurred therein.

Mr. Toland offered the following resolution:

Resolved, by the select and common councils, That the city commissioners be and they are hereby directed to cause *Gillis's* alley, running from Lombard to Cedar street, and between Fifth and Sixth streets, to be curbed and paved, which was passed by the select council, but the common council did not concur therein.

PENNSYLVANIA HOSPITAL.

This institution, being among the earliest and most important of those benevolent establishments, for which our city has been celebrated, we have drawn up as full an account of it, as time would permit, from several authentic sources, viz. a publication by the Managers, from the commencement to 1760 - and also in 1801—one by Dr. B. H. Coates, in the Philadelphia Journal of Med. and Physical Sciences—and one prepared by Mr. Wm. G. Malin, clerk of the Hospital, and published by the Managers, a few months since. For the tables of diseases, managers, &c. which have never been published, we are also indebted to Mr. Malin.

Origin and History.

This valuable institution was founded in the year 1750, by a number of benevolent individuals, who observing the distressed situation of the poor, and particularly of lunatics, procured a petition, which was presented to the Assembly, the 23d January, 1750–51, and which finally obtained an act of incorporation—although "for some time it was doubtful whether the bill would pass, many of the members not readily conceiving the necessity or usefulness of the design; and apprehending moreover, that the expense of paying physicians and surgeons, would eat up the whole of any fund that could be reasonably expected to be raised—but Doctors Lloyd Zachary, Thomas Bond, and Phineas Bond, generously offering to attend the hospital gratis for three years, and other difficulties being removed, the bill passed unanimously, and in May following received the assent of James Hamilton, lieutenant governor under the proprietaries, Thomas and Richard Penn. By this act, it was provided, that as soon "as a capital stock should be produced by private contributions, amounting to two thousand pounds value, (the yearly interest or rent of which is to be applied to the accommodating of the sick poor in the said hospital, free of charge for diet, attendance, advice, and medicines,") the speaker should be authorized to draw on the treasurer for a similar amount, to be applied to the founding, building, and furnishing the hospital. A subscription was immediately set on foot, and in a short time considerably more than the amount required by the act was subscribed; and on the 1st July 1751, a majority of contributors met at the State House, and chose by ballot the following 12 managers and treasurer.

Managers—Joshua Crosby, Benjamin Franklin, Thomas Bond, Samuel Hazard, Richard Peters, Israel Pemberton, Jr. Samuel Rhodes, Hugh Roberts, Joseph Morris, John Smith, Evan Morgan, Charles Norris.

Treasurer—John Reynell.

On the 6th July 1751, an address was prepared to the proprietaries, mentioning the establishment of the hospital, and the funds raised by contributions, and the act of assembly,—and praying for the grant of a piece of ground, for the buildings—"that all concerned in the province may share in the honour, merit, and pleasure, of promoting so good a work." This petition was forwarded to Thomas Hyam, and Sylvanus Bevan, in England, to be laid before the proprietaries. Although the desired piece of ground was not mentioned in the petition, yet in the letter to the agents, it is described as "vacant part of the square between 9th and 10th streets from Delaware, on the south side of Mulberry street, and is 396 feet east and west, and 360 north and south, and the application is urged by the consideration, that the lots in this part of the city have not advanced in value for several years past, and are not likely to be soon settled." In answer to the petition, the proprietaries offered a lot of ground "on the north side of Sassafras street, 396 feet, or thereabouts, and from south to north on 6th and 7th streets, 300 feet, and bounding northward on other vacant land, part of the same square, reserved to us." He also granted a charter, which the Managers declined accepting, on account of some objectionable clauses, and considering the incorporation of the Assembly as the best that they could have. The lot tendered by the proprietaries was deemed unsuitable for the purpose, it being, they say, "a moist piece of ground, adjoining to the brick yards, from which the city hath been supplied with bricks about 40 years past, where there are ponds of standing water, and therefore must be unhealthy, and more fit for a burying place, (to which use a part of it is already applied) than for any other purpose; besides, as it is part of a square allotted by the late honourable proprietaries for public uses, as the old maps of the city will show, our fellow citizens would tax us with injustice to them, if we should accept of this lot by a grant from our present proprietaries, in such terms, as would seem to imply our assenting to their having a right to the remainder of the square."—The agents were requested to repeat the application for the lot first described, either as a grant or on sale—it being determined, "rather to purchase a lot in a proper situation, than to build the house in an inconvenient place, or to accept of any lot on such terms as would give a general dissatisfaction." One of the contributors offered to give a much larger lot of ground about a mile out of town, which was objected to, from an apprehension of its being inconvenient to the physicians, "who as they freely give their attendance. should be subjected to as little difficulty as possible." The proprietaries still con-

tinued to object to giving any other lot, or to a sale. They however afterwards granted to the Hospital about one acre on the northern part of the square, at present occupied by the Hospital; the remainder of the square having been purchased in 1754, from individuals, at a low rate.

February 10, 1752. The Managers having hired the most convenient house that could be procured, with gardens, &c. (being situated in Market street, on the south side, above 5th street, and formerly the residence of Judge Kinsey) admitted on that day the first patients, who were regularly attended by the physicians and surgeons, and by them gratuitously supplied with medicines, until December of that year. An assortment of drugs being then received from London, an apothecary shop was opened in the Hospital—and an apothecary appointed, with a salary of £15 per annum. The cost of the medicines was £112 15s. 2d. and was paid for by a subscription, which was "set on foot among the charitable widows, and other good women of the city," of which Mary Allen contributed £24 6s. From this bounty, also, medicines were furnished to many poor out door patients, which may be considered the foundation of a dispensary.

March 10, 1754. A plan and estimate for the buildings to be erected, was submitted to the contributors, which being unanimously approved, the necessary measures were adopted for procuring materials, and further contributions solicited. "So diligent and successful were their applications, that scarce a tradesman, or even a labourer, was employed in any part of the work, without first engaging a reasonable part to be charitably applied in the premises."

In 1754, the Managers, and some other contributors, applied to the Assembly to be permitted to sign the bills of credit, for the purpose of aiding the funds of the Hospital, by adding to them the sums which they would be entitled to for signing. In this way £1838 17s. 6d. were added to other contributions, and proved a very seasonable assistance.

May 28 1755. The necessary preparations being made for commencing the building, the corner stone was laid by the President, Joshua Crosby, assisted by the Managers, physicians, and several contributors; and a large concourse of citizens, in addition to whom the schools were broken up, and all the children of an age to recollect it, sent to be witnesses. The corner stone is a large piece of marble, in the south-east corner of the eastern wing, with the following inscription, by Franklin:—

"In the Year of Christ
MDCCLV.
George the Second happily reigning,
(For he sought the happiness of his People,)
Philadelphia flourishing,
(For its Inhabitants were public spirited,)
This Building,
By the Bounty of the Government,
And of many private Persons,
Was piously founded,
For Relief of the Sick and Miserable.
May the God of Mercies
Bless the Undertaking."

A message had been sent into Chester county, to the first individual born in the colony after the arrival of William Penn, to induce him to lay the corner stone—which he refused, but attended at the ceremony.

The roof was raised on the 27th October, 1755, and the building fit for the reception of patients in December, 1756. They were then removed into it, from Market street, and on the 27th the Managers held their first meeting in the new building. In 1796 the western wing was opened, and in 1805 the centre.

THE BUILDINGS, GROUNDS, &c.

The real estate of the corporation consists of the square on which the Hospital stands, situated between Spruce and Pine streets, and Eighth and Ninth streets from the Delaware, inclosed by a wall, and containing four and a quarter acres; together with the vacant square in parallel lines to the east, and several lots to the south and west, containing in all about ten acres.

The principal building, surrounded on the borders of the square by majestic forest trees,* exhibits a south front of venerable aspect and considerable proportions, extending east and west two hundred and eighty-one feet. It consists of a centre, united by long wards, of three stories in height, to two wings extending north and south. The wings are surmounted by cupolas, and finished so as to present respectable fronts on Eighth and Ninth streets to the east and west.

Although able to complete but a portion of the designed building, its founders, with wise foresight, commenced upon a liberal scale, and adopted a symmetrical plan, which has been filled up at successive epochs, as admitted by the funds of the institution, and required by the exigencies of an increasing population. The eastern wing was completed and opened in the year 1756, the western wings in 1796, and the centre in 1805.

The centre measures sixty-four feet in front, by sixty-one in depth, and with the balustrade surrounding its cupola, seventy-two feet in height. The long ward to the east of the centre, is eighty-one feet in length, by twenty-seven feet in breadth, and the east wing measures twenty-seven feet east and west, by one hundred and eleven north and south. The western ward measures eighty-one feet by thirty-three, and the west wing twenty-eight feet by one hundred and eleven. The increased breadth in the buildings to the west of the centre, was adopted to allow of the construction of a double range of apartments for the insane: except, however, to a very accurate eye, this difference is scarcely perceptible.

The house is thus occupied; under the basement of its centre are cellars and a bake house: the basement story contains the kitchen—a dining room for the steward's family—and two sleeping rooms for female domestics. On the principal or entrance story, is a handsome hall, with spacious staircases and passages to the different parts of the house. The apartments on this floor are four;—the Library, which is also the steward's office, and in which the manager's meet to transact business—the apothecary's shop—a parlour, and the steward's chamber. The third story is occupied by the lying-in department, and chambers for the resident physicians and apothecary. The fourth story constains a circular operating theatre, in which all the surgical operations, of importance, are performed, in the presence of the medical class attending the practice of the hospital.—In this apartment three hundred persons may be seated: it is surmounted by a dome with a glass cupola, affording the best possible light to the operator. Adjoining this room are apartments for the reception of patients operated upon; and on this floor, are also those occupied by the sick and lame white females.

To the east of the centre building on the basement floor, are twelve apartments for insane patients, and some store rooms. The two principal stories are occupied as medical and surgical wards, by the white men. About forty patients can be received in each ward. The garret over the long ward is at present unoccupied—those in the wing are used as sleeping rooms by some of the domestics. In the line of this wing, to the north, is a detached building of three stories occupied by a class of white men, and by coloured people.

To the west of the centre, the whole range is occupied from the basement to the attic story, inclusive, by insane persons and their attendants. It contains for their accommodation, fifty-six separate sleeping rooms, each about ten feet square; four larger apartments usually

* These are Buttonwood or Occidental Plane trees, the largest growth of the North American forest; they were planted in the year 1756, by Hugh Roberts, one of the first managers of the institution.

occupied by a patient with an attendant; the long garret in which about twelve of the most quiet male patients usually sleep; and a small garret with beds for four females. The other garrets are occupied by the attendants. On the first story of the *wing* are two dining rooms, the matron's apartment, and a sitting room for the female patients. In the rear of this wing on Ninth st. is also a detached building, with separate sleeping rooms, each about ten feet by eight, for eighteen insane females.

The cells are warmed by fire places completely inclosed within the wall and opening in the passage, so that the inhabitant is rendered comfortable without having access to the fire. The fuel now employed throughout nearly the whole house is coal—as well for cooking and washing as for heating the house. By a statement published by the steward in 1825, it appears that upon an average of the five years, 1817 to 1821, previous to using coal, the annual charge for wood was $3188 39, and that of 1824 for wood and coal was $2125 29, being a difference of $1063 10.

In addition to the buildings enumerated, there are, on the north part of the square, a wash-house—coal shed—stabling and carriage house—green-houses, and the building on Spruce street in which is exhibited the painting by Benjamin West, of Christ healing the sick in the temple. The exhibition of this superb piece, a present from that distinguished artist, in 1804, produces a revenue to the hospital of about five hundred dollars per annum. The amount received last year was $822, so that at 25 cts. for admission it must have been visited by 3288 persons during the year.

A statue of William Penn (presented by his grandson John Penn, Esq. of Stoke Pogeis, England) placed upon a pedestal of white marble, occupies a conspicuous place on the lawn before the south front of the hospital. This statue was originally made for Lord Le Despencer, who erected it on an ornamental building, employed as a saw mill, on his superb grounds at High Wycomb, in England. After that nobleman's death it was purchased by the donor, and presented to the hospital.—It is of lead, bronzed. A chair, once the property of that great man, is preserved in the house; and a scion from the elm tree, under which was held the celebrated treaty with the Indians in 1682, has attained considerable size, in the square opposite the western front of the building.

The green-houses, containing a handsome collection of exotic plants, and a garden of one acre and three quarters—with the ornamented lawns in front and rear of the house, are under the care of a regular gardener. The attention paid to neatness, and even ornament, in the exterior and grounds, as well as in the interior of the house, gives to the whole an air of elegance, seldom equalled in establishments of this nature. This is justified, as well by donations to a considerable amount having been received for this purpose, as by the influence it is calculated to exert on the mind and health of the inmates of the institution.

The prospect from all parts of the buildings forming this asylum, is probably more agreeable to the eye than in any similar one in the world. Besides the consideration of ventilation, an object to the importance of which we have already alluded, the guardians of this institution have always had in view the benefit derived by the sick from agreeable impressions made upon their minds.—This is consulted by great general attention to neatness, and an air of comfort in all the apartments of the house—and among other things, by the prospect from all parts of it. Every window to which a patient has access, opens upon a garden, and most of them upon a highly agreeable one—the eye thus meeting, instead of dull or disagreeable masses of brick, with the freshness and verdure of nature.

CONTRIBUTORS.

They consist of persons who have given ten pounds or more, and are incorporated, by the name and title o, "Contributors to the Pennsylvania Hospital:" such may vote at elections for managers, or be voted for, but derive no personal interest, from the act of corporation. A sum, less than ten pounds, is called a donation.

The contributors have perpetual succession, with power to elect twelve managers, a treasurer, and all other officers of the institution, and make rules for the well-ordering of the house. They may receive and take the lands, hereditaments, and tenements, not exceeding the yearly value of one thousand ponnds, of the gift, alienation, bequest or devise of any person or persons whomsoever, and of any goods and chattels whatsoever; provided that "no general meeting of the contributors, or persons acting under them, shall employ any money or other estate, expressly given to the capital stock of the Hospital, in any other way, than by applying its annual interest or rent, towards the entertainment and care of the sick and distempered poor, that shall from time to time be brought and placed therein, for the cure of their diseases, from any part of the state, without partiality or preference."

If there should not be a constant succession of contributors to meet yearly and choose managers, then the hospital, its estate and affairs, and all the management thereof, are to be under the direction of such person as the legislature may appoint.

By a law of the contributors, the power of directing the manner and terms of receiving and discharging patients, is transferred to the managers.

MANAGERS.

Twelve managers and a treasurer to serve during the year are annually elected by the contributors on the 1st Monday of May—they receive no emolument for their services—they appoint the physicians and other officers and servants of the institution—regulate its internal economy and have the general charge of its income. The stated meetings of the Board are held on the first Monday of each month—the presence of eight, and the concurrence of seven of them is necessary for the transaction of business.

The Board appoints monthly a committee of two of its members to admit and discharge patients, and to exercise a particular superintendence over the internal concerns of the institution. This committee and the attending physicians meet at the hospital twice a week (on Wednesday and Saturday) for the transaction of business—To facilitate applications for admission, the names of the attending managers and physicians are regularly advertised in two of the daily papers.

The present managers are,

Thomas Stewardson, *President.*
Roberts Vaux, *Secretary.*

Thomas Morris, Charles Roberts, William W. Fisher, Charles Watson, John Paul, Joseph Price, Alexander W. Johnston, Mordecai Lewis, John J. Smith, Bartholomew Wistar,

Treasurer, Samuel N. Lewis.

The following is a list of those who have served as managers from the commencement of the institution to the present time—the date of their respective elections and the length of time which they served:

MANAGERS OF THE HOSPITAL.

	Elected	*Res'd.*	*Duration of Service.*
Joshua Crosby	1751	1755	4 years
Benjamin Franklin	—	1757	6 years
Thomas Bond	—	1752	1 year
Samuel Hazard	—	1754	3 years
Richard Peters	—	1752	1 year
Israel Pemberton, jr.	—	1779	28 years
Samuel Rhodes	—	1781	30 years
Hugh Roberts	—	1756	5 years
Joseph Morris	—	1757	6 years
John Smith	—	1756	5 years

Evan Morgan	—	1752	1 year
Charles Norris	—	1752	1 year
Isaac Jones	1752	1756	4 years
John Reynell	—	1780	28 years
William Griffitts	—	1753	1 year & 5 mon.
Thomas Lawrence, jr.	—	1753	1 year
Evan Morgan	1753	1763	10 years
Joseph Fox	1753	1756	2 yrs & 7 mons
William Grant	1754	1756	2 years
Thomas Crosby	1755	1757	1 year 11 mons
Daniel Roberdeau	1756	1758	2 years
Charles Jones	—	1761	5 years
Isaac Greenleaf	—	1771	15 years
Joseph Richardson, Merch't	—	1770	died 14 ys 6 mos
Jacob Duchee	1756	1758	1 year 9 mons.
Plunket Fleeson	1757	1759	2 years
Anthony Benezet	—	1758	1 year
John Sayre	1757	1758	9 months
Stephen Shewell	1758	1760	2 years
Thomas Gordon	—	1766	8 years
Samuel Mifflin	—	1760	2 years
James Pemberton	—	1780	22 years
Jacob Lewis	1759	1774	15 years
John Mease	1760	1764	4 years
Isaac Jones	1760	1762	2 years
John Smith	1761	1762	1 year
Henry Harrison	1762	1766	died 3 ys 9 mons
Thomas Wharton	—	1769	7 years
John Gibson	1763	1764	1 year
Isaac Jones	1764	1773	died 9 ys 5 mons
John Mease	1764	1768	3 yrs 10 mons
Daniel Roberdeau	1766	1776	10 years
Joseph Redman	1766	1767	1 year 1 month
John Gibson	1767	1770	2 yrs 7 mons
John Nixon	1768	1772	4 years
Joseph Morris	1769	1781	12 years
Isaac Cox	1770	1776	died 5 yrs 8 mon
William Logan	1770	1775	4 yrs 6 mons
Thomas Mifflin	1771	1773	1 year 11 mons
Thomas Wharton	1772	1779	7 years
Edward Penington	1773	1779	6 years
Robert Strettell Jones	1773	1781	8 ——
George Roberts	1774	1776	2 yrs 3 months
Thomas Fisher	1775	1776	1 year 3 months
Joseph Swift	1776	1786	9 yrs 9 months
William West	1776	1778	2 years
Jacob Shoemaker	1776	1781	5 yrs 3 months
William Morrell	—	1782	6 yrs 8 months
Samuel Powell	1778	1780	2 years
Joshua Howell	1779	1782	3 years
Samuel Pleasants	—	1781	2 years
Peter Reeve	—	1786	7 years
George Mifflin	1780	1785	died 5 yrs 2 mns
Thomas Franklin	—	1783	3 years
Tench Coxe	—	1781	1 year
Reynold Keen	1781	1790	9 yrs 7 months
Jonathan Shoemaker	—	1790	9 yrs 1 month
Owen Jones, jr.	—	1795	13 yrs 9 months
Isaac Wharton	—	1784	3 years
Josiah Hewes	1781	1812	30 years 5 mons
John Morton	1781	1785	3 yrs 8 months
Adam Hubley	1782	1784	2 years 4 mons
Nathaniel Falconer	1782	1783	6 months
Andrew Doz	1783	1788	5 years
Thomas Moore	—	1788	5 years
Nathaniel Falconer	1784	1790	6 years
Samuel Howell	1784	1789	4 yrs 10 months
William Hall	1785	1787	1 year 11 mons
Samuel Coates	1785	1825	40 yrs & 4 mons
Joseph Paschall	1786	1795	died 8 ys 10 mo
Thomas Penrose	—	1798	12 years
Richard Rundle	1787	1789	2 years
Samuel Clark	1788	1802	died 13 y 6 mns
Pattison Hartshorne	1788	1823	35 years
Elliston Perot	1789	1806	17 yrs 2 months
Bartholomew Wistar	1789	1796	7 years
Cornelius Barnes	1790	1793	3 yrs 5 mons
Lawrence Seckel	1790	1820	29 yrs 9 months
William McMurtrie	1791	1794	3 years
Thomas Morris	1793	1809	15 yrs 11 months
Samuel M. Fox	1794	1797	3 years
Robert Waln	1795	1800	5 yrs 2 months
James Smith, jr.	1795	1805	10 years
Israel Pleasants	1796	1800	4 years
John Dorsey	1797	1804	7 years
Robert Smith, Merch't	1798	1805	7 years
Zaccheus Collins	1800	1822	22 years
Paschall Hollingsworth	—	1812	12 years
Richard Wistar	1803	1806	3 yrs 4 months
Joseph Lownes	1804	1820	16 years
Peter Brown	1805	1811	died 6 yrs 7 mos
Edward Penington	—	1820	15 years
Zachariah Poulson	1806	1808	1 year 10 mos
William Poyntell	1806	1811	died 5 ys 2 ms
Thomas Stewardson	1808	—	——
Thomas P. Cope	1809	1828	19 years
Reeve Lewis	1811	1814	3 yrs 3 months
Joseph S. Morris	1811	1817	died 5 ys 3 mons
Samuel W. Fisher	1812	1817	died 4 ys 9 mons
Joseph Watson	—	1824	12 years 5 mons
Mordecai Lewis	1814	1818	3 years 8 mons
Israel Cope	1817	1828	11 years
Thomas Morris	1817	—	——
Henry Hollingsworth	1818	1823	5 years 6 mons
Alexander Elmslie	1820	1827	7 years
Matthew L. Bevan	—	1828	7 yrs 10 mons
Joseph Johnson	—	1828	7 yrs 10 mons
William L. Hodge	1822	1824	2 years
Roberts Vaux	1823	—	——
Charles Roberts	1823	—	——
William W. Fisher	1824	—	——
Charles Watson	1824	—	——
John Paul	1825	—	——
Joseph R. Jenks	1827	1828	10 months
Joseph Price	1828	—	——
Alexander W. Johnston	—	—	——
Mordecai Lewis	—	—	——
John J. Smith	—	—	——
Bartholomew Wistar	—	—	——

The following have been

TREASURERS.

John Reynell	May	1751 to	May	1752	1 year
Charles Norris	-	1752 to	-	1756	4 years
Hugh Roberts	-	1756 to	-	1768	12 years
Saml. P. Moore	-	1768 to	-	1769	1 year
Thomas Wharton	-	1769 to	-	1772	3 years
Joseph King	-	1772 to	June	1773	1y 1 mo
Joseph Hillborn	June	1773 to	July	1780	7 years
Mordecai Lewis	July	1780 to	Mar.	1799	18 y 8 m
Joseph S. Lewis	Mar.	1799 to	-	1826	27 years
Samuel N. Lewis	-	1826			

PHYSICIANS, SURGEONS, MEDICAL LIBRARY, &c.

The Managers elect annually three physicians to have charge of the medical department; three surgeons to the charge of the surgical department; and two physicians for the lying-in department; all of whom must be Doctors in Medicine, and members of this corporation.

Two young gentlemen, *graduates* of medicine, reside in the Hospital, and take charge, alternately, of the surgical, and the medical and obstetrical departments, under the direction of the visiting physicians and surgeons. One of the residents is elected annually, to serve two years. An apothecary is engaged at a salary, to prepare and dispense the medicines prescribed by the physicians.

The physicians and surgeons of this hospital have uniformly rendered their important aid gratuitously. The students of medicine who attend the practice of the Hospital physicians, pay a fee of ten dollars each for the privilege: these fees, which in European hospitals are a perquisite of their medical staff, the professional gentlemen, attached to the Pennsylvania Hospital, have generously devoted to the foundation and endowment of a Medical Library, which now consists of about six thousand volumes, comprising a large proportion of the most valuable ancient and modern works on the science of

Medicine, with many rare treatises on Botany, and other branches of Natural History. Students have the privilege of using this splendid collection, while attending the Hospital practice; and a right to its use during life is granted for the sum of twenty-five dollars. This library fund amounts annually to 3 or 400 dollars; last year $576 62, were paid for books and binding. The Clerk is also Librarian.

The six physicians and surgeons having charge of the medical and surgical departments, divide the year into three equal periods, one physician and one surgeon attending at the same time, and continuing in charge of their respective wards four months. The two physicians having charge of the lying-in department, continue in office *six* months each. In extraordinary cases, and before the performance of surgical operations, it is usual for the gentleman in attendance to hold consultation with his colleagues.

A physician to the Hospital must be 27 years of age before he can be elected.

An extensive Anatomical Museum formerly belonged to the Hospital, which was a few years since presented to the Medical department of the University.

The following is a list of the Physicians and Surgeons from the commencement of the institution.

	Elected.	*Res'gd.*	*Duration.*
Lloyd Zachary	1751	1753	2 years.
Thomas Bond		1784	33
Phineas Bond		1774	23
Thomas Græme		1753	2
Thomas Cadwallader		1777	26
Saml. Preston Moore		1759	8
John Redman		1780	29
Wm. Shippen	1753.	1778	25
Cadwallader Evans	1759	1774	15
John Morgan	1774	1777	3
Charles Moore	1774	1775	1
Adam Kuhn	1775	1781	6
Wm. Shippen Jr.	1778	1779	1
Thomas Parke	1777	1823	45 up'd.
James Hutchinson	1777	1778	1
John Morgan	1778	1783	5
Gerardus Clarkson	1779	1779	1
Adam Kuhn	1782	1798	16
John Jones	1781	1792	11
Wm. Shippen, Jr.	1792	1802	10
Benjamin Rush	1784	1813	29
John Foulke	1784	1793	9
James Hutchinson	1780	1793	13
Caspar Wistar	1794	1810	16
Philip Syng Physick	1794	1816	22
Benjamin S. Barton	1798	1816	17
John R. Coxe	1802	1807	5
Thomas C. James	1807		
John Syng Dorsey	1810	1818	8
Joseph Harthorne	1811	1821	10
John C. Otto	1814		
Joseph Parrish	1816		
Thomas T. Hewson	1818		
Saml. Calhoun	1816	1821	5
William Price	1821	1823	2
John Moore	1820		
John Wilson Moore	1821	1827	6
Samuel Emlen	1823	1828	5
John Rhea Barton	1823		
John K. Mitchell	1827		
Benjamin H. Coates	1828		

Resident Physicians at this time—James A. Washington, and George Fox.

Apothecary—Newberry Smith, Jr.

PERSONS EMPLOYED ABOUT THE HOUSE.

The officers and servants residing in this institution, and receiving pay are,

Steward and Matron	2
Matron of the Insane	1
Clerk and Librarian	1
Apothecary	1
Gate-keeper	1
Baker	1
Gardener and assistant	2
Keeper of West's painting. (a female,)	1
Watchman	1
Ostler	1
Cow-keeper	1
Washer-women	2
Cooks	2
House-maids	3
Nurses in the women's wards	4
——— in the men's wards, two males and six females	8
Female attendants on the Insane	8
Male attendants on the Insane	4
	44

17 men, and 27 women.—And 2 private servants of the Insane, whose board and wages are paid by the parties

The salaries and wages amount to about $5600 per annum.

MODE OF OBTAINING ADMISSION.

The usual mode of obtaining admission into the Hospital is, by first applying to one of the physicians in attendance; who, after examining the patient, gives a certificate of the nature of the disease, and the propriety of its admission into the Hospital; this is addressed to the attending managers, who settle the terms of admission, and grant their order, directing the Steward of the Hospital to receive the patient. This course is only departed from in *two* cases—that of seamen, who, by a special agreement, after receiving a certificate from the physician, have only to obtain the order of the Collector of the Port,—and in cases of accident, it being a rule to receive, by day or night, every person who meets with an accident requiring surgical aid, without requiring any security of the parties who bring the patient to the Hospital;—provided the accident occurs in Pennsylvania, and the sufferer is brought *immediately* or within twenty-four hours.

Overseers of the poor from the country, who bring a patient, must have a certificate signed by two magistrates, denoting that they are in office, and the pauper proposed for admission resides in their district, or their application will be rejected.

Persons with infectious diseases are not to be re-ceived.

PATIENTS.

The charter of this institution provides, that no part of its income shall be appropriated to any other purpose, than to the support of the sick and diseased poor, and providing the necessary buildings for their accommodation; and that those whose diseases render them proper objects of the charity, shall be received from any part of *Pennsylvania*, without partiality or preference.

After the accommodation of as many poor patients as the state of their funds will justify, the Managers have authority to receive *pay* patients; any profit derived from this source being devoted to increase the fund for the maintenance of the poor. The rates usually charged are from three to six dollars per week, according to the circumstances of the patient. The amount received last year for the board of patients was $21,323 62. Pay patients are not admitted on a deposit of money, or on the responsibility of strangers, the only security accepted, is that of some respectable resident in Philadelphia. At their own desire, patients may be attended, exclusively, by either of the Hospital physicians they prefer, but in such cases it is expected that the affluent will pay the physicians as though attended elsewhere.

The overseers of the poor of Pennnsylvania, and religious societies therein, who support the poor by their own voluntary subscriptions, pay but three dollars a week, which is about the first cost of one person's maintenance, including medicines and all charges, except clothing and funeral expenses.

As this institution is intended to be a hospital for the cure of disease, not a permanent asylum for poverty and decrepitude, the Managers can admit none on the charity list, whose diseases are chronic and incurable, ex-

cept those afflicted with insanity; and it is imperative upon them to discharge all patients, who after a reasonable time of trial, may be deemed incurable.

The number at present received at one time on the charity, is one hundred, of whom thirty-three may be insane. It has been found necessary to limit the proportion of insane poor, on account of the length of time they frequently remain in the house.

The whole number of patients admitted into the Hospital, from its opening, February 11, 1752, to April 26, 1828, was twenty-five thousand and seventy, of whom 12,752 were poor, and 12,318 pay patients. Of these have been discharged—

Cured	15,579	
Relieved	3,027	
Incurable	150	
Removed by friends, or at their request	1,460	
Eloped and discharged for misconduct,	948	
Pregnant women delivered safely	468	
Infants taken out in health	437	
Died	2,792	
		24,861
Remaining in the Hospital April 26, 1828		209
		25,070

The following list shows the number of poor and pay patients that have been admitted from the commencement of the hospital to the present time, as also the average number in the house:

		Pay Patients.	Poor Patients.	Total.	Average No. in the house.
Admitted from February 11, 1752, to April,	1753	24	40	64	9
	1754	14	39	53	12
	1755	13	60	73	17
	1756	7	61	68	17
	1757	13	68	81	17
	1758	29	85	114	33
	1759	25	102	127	34
	1760	32	105	137	40
	1761	40	113	153	45
	1762	29	128	157	47
	1763	46	194	240	73
	1764	50	272	322	101
	1765	45	261	306	111
	1766	56	283	339	119
	1767	38	307	345	120
	1768	54	337	391	123
	1769	32	353	385	110
	1770	49	336	385	113
	1771	44	338	382	118
	1772	44	349	393	117
	1773	46	315	361	105
	1774	63	374	437	117
	1775	60	361	421	105
	1776	42	393	435	89
	1777	109	268	377	67
	1778	31	96	127	39
	1779	16	107	123	36
	1780	10	118	128	35
	1781	18	103	121	35
	1782	69	42	111	36
	1783	83	23	106	37
	1784	156	47	203	61
	1785	133	35	168	51
	1786	113	25	138	51
	1787	108	30	138	54
	1788	78	32	110	54
Admitted in	1789	49	28	77	47
	1790	51	27	78	46
	1791	73	32	105	52
	1792	107	72	179	64
	1793	87	63	150	63
	1794	170	78	248	71
	1795	107	67	174	72
	1796	113	103	216	69
	1797	114	89	203	75
	1798	101	71	172	78
	1799	60	66	126	74
	1800	80	96	176	78
	1801	106	70	176	85
	1802	176	73	249	87
	1803	217	87	304	114
	1804	214	88	302	113
	1805	231	89	320	103
	1806	241	98	339	109
	1807	338	115	453	129
	1808	288	121	409	122
	1809	419	141	560	158
	1810	216	152	368	127
	1811	281	171	452	138
	1812	373	172	545	150
	1813	376	145	521	161
	1814	307	140	447	163
	1815	235	159	394	147
	1816	500	181	681	178
	1817	483	201	684	200
	1818	468	170	638	199
	1819	474	243	717	214
	1820	457	292	749	226
	1821	414	286	700	208
	1822	300	244	544	158
	1823	346	342	688	170
	1824	363	384	747	178
	1825	353	391	744	177
	1826	368	362	730	175
	1827	416	383	809	183
	1828	427	460	887	202
		12,318	12,752	25,070	

Of 1859 *patients in the Hospital in* 1826 *&* 1827, *there were from*

United States	1232
Ireland	407
England and Wales	88
Scotland	14
Germany	36
Sweden	23
France	21
West Indies	7
Denmark	7
Portugal	4
Canada	5
Italy	3
Africa	2
Spain	1
Prussia	1
China	1
Corsica	1
Holland	1
Norway	3
Russia	2

1859

Foreigners	627
United States	1232

Diseases of the Patients.

The following table shows the number of cases of each disease which have occurred from the establishment of the hospital to the present time:

Abscess	111	Anasarca	38
Ague	37	Anchylosis	6
Amenorrhæa	13	Aneurism	13

Anus imperforate	2	Hydrothorax	14
Apoplexia	8	Hydrophobia	1
Asthma	72	Hypochondriasis	39
Burns and Scalds	146	Hysterics	38
Cancer	72	Jaundice	26
Caries	140	Insanity	3245
Cataract	79	Delirium Tremens or insanity caused by intemperance	242
Catarrhus	184		
Cephalalgia	37		
Cholera	14	Inflammations	298
Cholic	55	Leprosy	14
Chorea St. Viti	8	Measles	2
Constipation	9	Nephritis	10
Contusions & wounds	1692	Obstructed viscera	122
Convulsions	60	menses	77
Cramp	12	Ophthalmia	216
Croup	2	Palsy	205
Cynanche Tonsilaris	24	of bladder	4
Deafness	16	Paraphymosis	3
Debility	59	Paronychia	21
Diabetes	4	Pectoral and pulmonary affections	285
Diarrhœa	293		
Diseased Bladder	24	Pneumonia	87
Glands	4	Peripneumony	4
Rectum	3	Pleurisy	222
Spine	22	Phthsis Pulmonalis	314
Spleen	3	Poisoned	11
Testicles	32	Polypus	10
Uterus	10	Prolapsus Ani	7
Joints	314	Uteri	12
Heart	1	Pregnancy (cases of)	529
Ears	9	Infants born in hospital	477
Eyes	238	Rheumatism	1962
Gutta Serena	48	Nervous affections	23
Dislocations	102	Scrophula	89
Dropsy	558	Scurvy	212
Dysentery	440	Stone in the bladder	61
Dyspepsia	56	Strictures	79
Dysury	12	Sprains	64
Epilepsy	109	Spasms	2
Eruptions	143	Strangury	8
Erysipelas	24	Syncope	4
Exostosis	5	Small pox	38
Febris	1821	Surfeit	5
Biliosa	26	Sore throat	8
Intermittens	781	Splenitis	4
Remittens	233	Tetanus	14
Flava	10	Tinea Capitis	18
Fistula	138	Tumors	304
Fluor Albus	6	Ulcers	2402
Frosted	161	Urine, suppression of	8
Fractures	991	Incontinence of	3
Gangrene	32	Vertigo	36
Gunshot wounds	56	White swellings	37
Hair lip	6	Worms	1
Hemorrhage	11	Wounded soldiers and sailors	38
Hemoptysis & Hemoptoe	71		
Hemorrhoids	52	Wounded Hessians	26
Hepatitis	66	Sick continental soldiers	104
Hernia	102	wives of do	7
Humoralis	8	children of do	4
Hydrocele	43		
Varicose veins	17		25070
Venereal disease	2978		

CASES OF INSANITY.

Of these there have been in the above mentioned period, 3487. Of which about 240 are *designated* as caused by intemperance.

The number of insane patients in the house is generally about 110.

Cases of Insanity, from February 11, 1752, *to April* 26, 1828.

The following table, the result of a very careful examination of the Hospital records, exhibits the number of insane patients of each sex, together with the proportion cured, relieved, &c.

CASES OF INSANITY.

Total	Cured.	Relieved.	Removed by friends	Eloped.	Died.	Remain.
Males, 2418	910	452	444	188	364	60
Females 1069	344	250	224	42	162	47
3487	1254	702	668	230	526	107

It should be remarked, that a large proportion of the deaths have been from old age, or diseases having no necessary connexion with insanity. A large proportion of the elopements occurred before the wall was erected.

THE LYING-IN DEPARTMENT.

A part of the third story is appropriated to this use. Ordinarily there are in it 50 per anm. During the last year 28—children were born in the house. None but married women, of respectable character, are admitted here; other classes being referred to the alms-house.—This ward is an extremely neat and beautiful set of rooms, with a fine exposure; and is a situation much sought after by women of that description when in difficult circumstances. It owes its origin to a donation from the First Troop of Philadelphia City Cavalry. The history of this donation is highly curious, and honorable to the donors. After the termination of the war of the revolution, in which this body acted, as is well known, as a life-guard to Washington, and after many delays, they received a sum of money as the amount of their pay from the government for military services; this they first resolved to appropriate to the establishment of a foundling hospital. After some time, it was proposed to deposit it in the charge of the managers of the Pennsylvania Hospital for the same use. This body were, however, disinclined to such a foundation, in consequence of the distressing accounts which were then transmitted from Europe, of the mortality which took place in such institutions there. A law had been obtained authorising the managers to institute a "*Lying-in and Foundling Hospital*," but after several conferences between them and the representatives of the First Troop, it was finally concluded to omit the foundling establishment, and the lying-in rooms were opened as at present.

Physicians—Thomas C. James, and John Moore.

(To be Concluded.)

THE LEIPER CANAL.

The late Thomas Leiper, Esq. of this city, contemplated, in 1790, a canal along his estate in Delaware county, in order to complete an easy communication between his quarries on Crum creek, and the Delaware. His views were not perfectly comprehended by the legislature at that time, and he found himself foiled in his attempt. In 1807 he caused a *rail road*—the first in this country—to be constructed from his quarries to Ridley creek. In 1825, since the death of Mr. Leiper, his son Geo. G. Leiper, Esq. revived the idea proposed by his father—and on Saturday the 16th inst. the corner stone of the canal was laid, by Wm. Strickland, Esq. with an appropriate address from Professor Patterson, of this city. A large concourse of citizens, as we gather from the Upland Union, attended the ceremony, among whom was Mrs. Elizabeth C. Leiper, the aged widow of the gentleman who had proposed the canal.—*U. S. Gaz.*

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